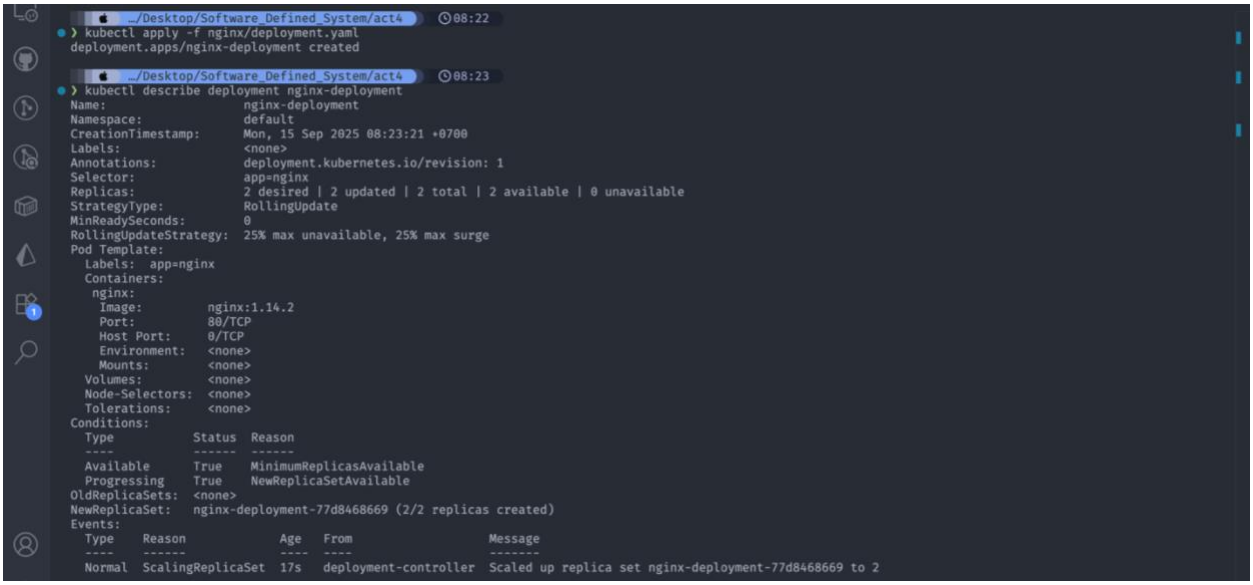
Activity 4

3. Test your cluster with nginx as followed:

   a. Deploy an nginx on your cluster using the deployment file from https://k8s.io/examples/application/deployment.yaml

   b. Use kubectl to describe the deployment



a. & b.

4. Deploy a todo service with redis database as followed:

   b. Create a deployment file of a pod with service of the following containers:
      I. todo (release-2.1)
      II. redis

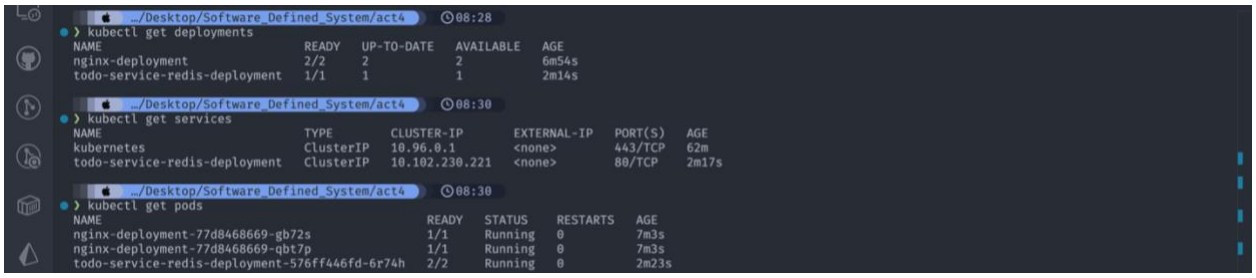
```yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: todo-service-redis-deployment
  labels:
    app: todo-service-redis
spec:
  replicas: 1
  selector:
    matchLabels:
      app: todo-service-redis
  template:
    metadata:
      labels:
        app: todo-service-redis
    spec:
      containers:
        - name: todo-service
          image: natawut/todo-service:release-2.1
          ports:
            - containerPort: 8000
          env:
            - name: REDIS_HOST
              value: localhost

        - name: redis
          image: redis:7-alpine

```

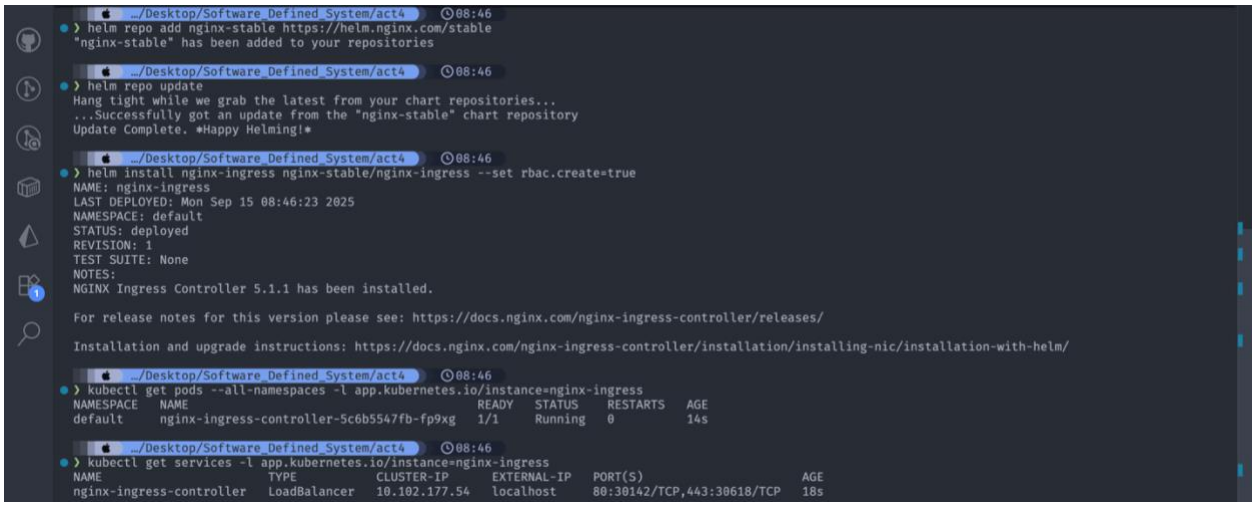
deployment.yaml

b.



b. get commands results.

d. Create a deployment file of a pod with service of the following containers:



nginx-ingress

```yaml
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
  name: todo-service-redis-ingress
  namespace: default
  annotations:
    nginx.ingress.kubernetes.io/rewrite-target: /
spec:
  ingressClassName: nginx
  rules:
    - host: localhost
      http:
        paths:
          - path: /
            pathType: Prefix
            backend:
              service:
                name: todo-service-redis-deployment
                port:
                  number: 80
```

ingress.yaml

```
❯ kubectl apply -f todo-service-redis/ingress.yaml
ingress.networking.k8s.io/todo-service-redis-ingress created
```

apply ingress

```
.../Desktop/Software_Defined_System/act4  08:30
❯ kubectl get ingress
NAME                       CLASS   HOSTS       ADDRESS   PORTS   AGE
todo-service-redis-ingress   nginx   localhost             80      2m29s

.../Desktop/Software_Defined_System/act4  08:30
❯ kubectl describe ingress todo-service-redis-ingress
Name:             todo-service-redis-ingress
Labels:           <none>
Namespace:        default
Address:
Ingress Class:    nginx
Default backend:  <default>
Rules:
  Host        Path  Backends
  ----        ----  --------
  localhost
              /   todo-service-redis-deployment:80 (10.1.0.22:8000)
Annotations:  nginx.ingress.kubernetes.io/rewrite-target: /
Events:       <none>
```

describe ingress

e. Test the newly deployment

i. Create a new todo record with
{"title":"todo-1","detail":"the first todo","duedate":"2022-10-24 11:00:00","tags":[],"completed":false}

ii. Get todo list via localhost:80

```
.../Desktop/Software_Defined_System/act4  08:49
❯ curl -X POST -d '{"title":"todo-1","detail":"the first todo","duedate":"2024-10-13 11:00:00","tags":[],"completed":false}' http://localhost/
{"id":0}INFO:     10.1.0.23:57058 - "POST / HTTP/1.1" 201 Created

.../Desktop/Software_Defined_System/act4  08:49
❯ curl localhost
[{"id":0,"title":"todo-1","detail":"the first todo","completed":false,"duedate":"2024-10-13T11:00:00","tags":[]}]INFO:     10.1.0.23:38570 - "GET / HTTP/1.1" 200
 OK
```